40. The apparatus of claim 39 wherein said processor evaluates fuzzy inference rules relating to the rate of change of said respiratory effort signal.
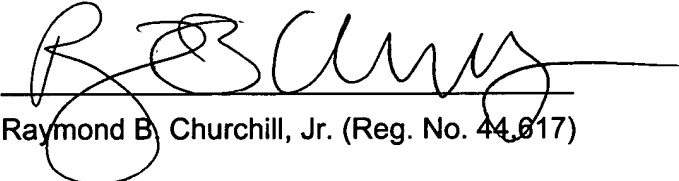
## REMARKS

No new matter is added to the application as a result of the foregoing amendments. Early and favorable examination is therefore requested.

Respectfully submitted,
GOTTLIEB, RACKMAN & REISMAN, P.C.
Attorneys for Applicant
270 Madison Avenue
New York, New York 10016
Phone: (212) 684-3900
Fax: (212) 684-3999

1/15/02
Date

Raymond B. Churchill, Jr. (Reg. No. 44,617)

10

# APPENDIX A

## (marked-up version of claim amendments)

2. (AMENDED)    The method of claim 1 wherein said respiratory effort sensor is selected from a group of effort sensors ~~comprising~~including:

(a)    a suprasternal notch sensor;

(b)    an esophageal pressure effort sensor; and

(c)    an electromyograph.

16. (AMENDED)    The method of claim 6 wherein said fuzzy inference rules include at least one rule selected from a group of rules ~~comprising~~including:

(a)    If the airflow is zero and increasing fast, then the phase is about 0 revolutions;

(b)    If the airflow is large positive and steady, then the phase is about 0.25 revolutions;

(c)    If the airflow is zero and falling fast, then the phase is about 0.5 revolutions;

(d)    If the airflow is large negative and steady, then the phase is about 0.75 revolutions;

(e)    If the airflow is zero and steady and the 5-second low-pass filtered absolute value of the respiratory airflow is large, then the phase is about 0.9 revolutions;

(f)    If the airflow is positive and the phase is expiratory, then the phase is about 0.1 revolutions;

(g)    If the airflow is negative and the phase is inspiratory, then the phase is about 0.6 revolutions;

(h)    If the 5-second low-pass filtered absolute value of the respiratory airflow is small, then the phase in the respiratory cycle is increasing at a fixed rate equal to the patient's expected respiratory rate; and

11

(i)     If the 5-second low-pass filtered absolute value of the respiratory airflow is large, then the phase in the respiratory cycle is increasing at a steady rate equal to the existing rate of change of phase, low-pass filtered with a time constant of 20 seconds.

18. (AMENDED)     The apparatus of claim 17 wherein said at least one sensor is an effort sensor from a group of effort sensors ~~comprising~~including:

(a)     a suprasternal notch sensor;

(b)     an esophageal pressure effort sensor; and

(c)     an electromyograph.

32. (AMENDED) The apparatus of claim 22 wherein said fuzzy inference rules include at least one rule selected form a group of rules ~~comprising~~including:

(a)     If the airflow is zero and increasing fast, then the phase is about 0 revolutions;

(b)     If the airflow is large positive and steady, then the phase is about 0.25 revolutions;

(c)     If the airflow is zero and falling fast, then the phase is about 0.5 revolutions;

(d)     If the airflow is large negative and steady, then the phase is about 0.75 revolutions;

(e)     If the airflow is zero and steady and the 5-second low-pass filtered absolute value of the respiratory airflow is large, then the phase is about 0.9 revolutions;

(f)     If the airflow is positive and the phase is expiratory, then the phase is about 0.1 revolutions;

(g)     If the airflow is negative and the phase is inspiratory, then the phase is about 0.6 revolutions;

(h)     If the 5-second low-pass filtered absolute value of the respiratory airflow is small, then the phase in the respiratory cycle is increasing at a fixed rate equal to the patient's expected respiratory rate; and

12

(i)     If the 5-second low-pass filtered absolute value of the respiratory airflow is large, then the phase in the respiratory cycle is increasing at a steady rate equal to the existing rate of change of phase, low-pass filtered with a time constant of 20 seconds.

34. (AMENDED)     The method of claim 33 wherein said respiratory effort sensor is selected from a group of effort sensors ~~comprising~~including:

(a)     a suprasternal notch sensor;

(b)     an esophageal pressure effort sensor; and

(c)     an electromyograph.

38. (AMENDED)     The apparatus of claim 37 wherein said at least one sensor is an effort sensor from a group of effort sensors ~~comprising~~including:

(a)     a suprasternal notch sensor;

(b)     an esophageal pressure effort sensor; and

(c)     an electromyograph.

13